

## REMARKS

### I. Introduction

Applicants' and Applicants' representative would like to thank Examiner Hoang for the indication of allowable subject matter recited by claims 12 and 16. In response to the Office Action dated March 10, 2005, claims 2 and 6 have been amended to incorporate the subject matter of claims 3 and 7, respectively. Claims 3 and 7 are canceled, without prejudice or disclaimer. Also, Applicants have amended claims 1, 5, 9, 13 and 17 so as to further clarify the claimed subject matter. New claims 20-24 are added. Support for these amendments can be found, for example, in Figs. 1 and 2A-2D, and their corresponding sections of the specification. No new matter has been added.

For the reasons set forth below, Applicants respectfully submit that all pending claims are patentable over the cited prior art references.

### II. The Rejection Of Claims 1-11, 13-15 and 17-19 Under 35 U.S.C. § 103

Claims 1-11, 13-15 and 17-19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicants' Admitted Prior Art ("AAPA") in view of USP No. 5,580,702 to Hayase. Applicants respectfully traverse this rejection for at least the following reasons.

Claim 1 recites in-part the steps of performing pattern exposure by selectively irradiating said resist film with exposing light *while* providing ... a solution that includes an acid generator between the resist film and the projection lens.

In the pending rejection, it is admitted that the AAPA does not disclose a solution having an acid or a water-soluble film on the resist film, and the acidic solution of Hayase is relied upon to cure this defect of the AAPA.

As a preliminary matter, Applicants respectfully submit that the allegation set forth in the pending rejection is logically flawed. Specifically, in order to modify the solution of the AAPA being provided to the resist film while performing the pattern exposure, Hayase should at least demonstrate that the acidic solution disclosed therein is also supplied *during* pattern exposure. However, Hayase expressly discloses that the resist film is pattern-exposed by an KrF excimer-laser stepper *after* the solution of an acidic water-soluble polymer is spin-coated on the resist film and the polymer is baked on a heated hot plate. As such, Hayase does not disclose providing the solution at the time of exposure.

Most importantly, the pattern formation method of Hayase is directed to *dry exposure* (see, e.g., col. 11, lines 16-26 and col. 19, lines 17-19), while the AAPA is directed to *immersion exposure*. Accordingly, even assuming *arguendo* that the combination of the AAPA and Hayase is proper, the combination still fails to disclose or suggest each and every limitation recited by the recited claim. As such, the AAPA and Hayase do not provide a valid basis for rejecting the claims.

Applicants note that the requisite motivation to support the ultimate legal conclusion of obviousness under 35 U.S.C. §103 is not an abstract concept but must stem from the applied prior art as a whole and have realistically impelled one having ordinary skill in the art to modify a reference or combine references to arrive at a claimed invention. *In re Newell*, 891 F.2d 899, 13 USPQ2d 1248 (Fed. Cir. 1989). It has been judicially held that a *generalization* does *not* establish the requisite motivation to modify a specific reference in a specific manner to arrive at a specifically claimed invention. *In re Deuel*, 51 F.3d 1552, 34 USPQ2d 1210 (Fed. Cir. 1995). Rather, the PTO is required to point out wherein the prior art suggests modifying a reference or combining references to arrive at a specifically claimed invention. *In re Rouffet*, 149 F.3d 1350,

47 USPQ2d 1543 (Fed. Cir. 1998). In this respect, Applicant would further stress that the *mere identification* of claim features in disparate references does not establish the requisite realistic motivation to support the ultimate legal conclusion of obviousness under 35 U.S.C. §103. *Grain Processing Corp. v. American-Maize Products Co.*, 840 F.2d 902, 5 USPQ2d 1788 (Fed. Cir. 1988).

Thus, for all of the foregoing reasons, it is respectfully submitted that the AAPA and Hayase, taken alone or in combination, do not disclose or suggest the step of performing pattern exposure by selectively irradiating said resist film with exposing light *while* providing ... a solution that includes an acid generator between the resist film and the projection lens, as recited by claim 1.

With respect to claim 5, as this claim also recites the step of “performing pattern exposure ... *while* providing ... a solution including an acid between the resist film and the projection lens,” it is respectfully submitted that claim 5 is patentable over the cited prior art for the same reasons discussed with respect to claim 1.

With respect to claim 9, this claim recites “forming, on said resist film, a water-soluble film including an acid generator *for generating an acid through irradiation with light*.” In the pending rejection, the Examiner relies on the acidic water-soluble polymer of Hayase to meet the foregoing claim feature. However, Applicants respectfully disagree with such interpretation, because an acid generator is a chemical compound that produces an acidic material during a reaction with the exposure light. That is, an acid generator does *not* demonstrate an acidic reaction until it is exposed to exposure light. In contrast, the acidic water-soluble polymer of Hayase clearly does not display such a capability. Accordingly, it is respectfully submitted that

the acidic water-soluble polymer of Hayase cannot reasonably be interpreted as the claimed acid generator.

Additionally, claim 9 recites the step of performing pattern exposure while providing a *nonaqueous solution* between the resist film and the projection lens. In contrast, Hayase expressly discloses forming the acidic water-soluble polymer by preparing an *aqueous* solution (see, col. 11, lines 16-26). Accordingly, it is respectfully submitted that Hayase does not disclose or suggest providing a nonaqueous solution, as recited by claim 9. In this regard, noting that the claim elements “*nonaqueous solution*” and “*water-soluble film*” are *separate* and *distinct*, if the pending rejection is maintained, Applicants respectfully request that the next Office Action identify the specific element of Hayase as reading on the foregoing elements so as afford the Applicants an opportunity to further address the Examiner’s concern.

With respect to claims 13 and 17, as these claims also recite the step of “performing pattern exposure ... *while* providing a *nonaqueous solution* between said *water-soluble film* ...,” it is respectfully submitted that claims 13 and 17 are patentable over the cited prior art for at least the same reasons discussed with respect to claim 9.

**III. All Dependent Claims Are Allowable Because The Independent Claims From Which They Depend Are Allowable**

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as independent claims 1, 5, 9, 13 and 17

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are patentable for the reasons set forth above, it is respectfully submitted that all claims dependent thereon are also in condition for allowance.

**IV. Conclusion**

Accordingly, it is urged that the application is in condition for allowance, an indication of which is respectfully solicited.

If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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